

**To:** Greenberg, Marc[Greenberg.Marc@epa.gov]; Rauscher, Jon[Rauscher.Jon@epa.gov]; Wall, Dan[wall.dan@epa.gov]; OBrien, Wendy[OBrien.Wendy@epa.gov]; Keteles, Kristen[Keteles.Kristen@epa.gov]; Hiatt, Gerald[Hiatt.Gerald@epa.gov]  
**Cc:** Allen, HarryL[Allen.HarryL@epa.gov]; Valdes, Dennisses[Valdes.Dennisses@epa.gov]; McKean, Deborah[mckean.deborah@epa.gov]  
**From:** Black, Ned  
**Sent:** Mon 8/10/2015 7:18:11 PM  
**Subject:** RE: MASS BALANCE QUESTION

Marc,

After the regular EU call we had a follow-up with just Jon Rauscher, Phil Turner, Gerry Hiatt and me. We decided to cut a 213 asking ERT to do this mass balance.

Jon or Phil are taking care of that.

Cheers,

ned

ned black, ph.d.

us epa r9

regional cercla ecologist

415-972-3055

Please be advised I currently have limited access to email when I am not in the office (e.g., on travel), therefore please be patient with any communication delays.

**From:** Greenberg, Marc  
**Sent:** Monday, August 10, 2015 11:19 AM  
**To:** Rauscher, Jon; Wall, Dan; OBrien, Wendy; Keteles, Kristen; Black, Ned; Hiatt, Gerald  
**Cc:** Allen, HarryL; Valdes, Dennisses; McKean, Deborah  
**Subject:** MASS BALANCE QUESTION

Folks,

I put a different subject line on the question I sent earlier today to perhaps bring it to your attention in case you did not get to it before your EU call earlier today.

**From:** Greenberg, Marc

**Sent:** Monday, August 10, 2015 11:23 AM

**To:** Rauscher, Jon; Wall, Dan; OBrien, Wendy; Keteles, Kristen; Black, Ned; Hiatt, Gerald

**Cc:** Allen, HarryL; Valdes, Dennisses; McKean, Deborah

**Subject:** RE: EOC Spot Report: Update #1, Region 8, Abandoned Mine Release into Animas River; San Juan County, CO

EU folks,

Harry Allen in R9 brought a good question about mass balance to my attention earlier today. Metals is one thing, but also pH, alkalinity, hardness and other WQ parameters. So, it might be wise to do some mass balances to show the estimated contributions to the stream other than color that is shown by a photograph. So the question is, has anyone been looking into a mass balance to enhance our understanding and expectations on what this spill of 30 M gal might mean? It might provide a way for us to contextualize the spill (from multiple perspectives: mass loading, exposure potential, and risk). Sounded like an EU question to me.

You may have people (contractor or in-house) that can do this for you as part of the response. If not, please contact myself or Dee Valdes for assistance.

Thanks,

Marc

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Marc S. Greenberg, Ph.D.  
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